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- (d) Harmonization of concepts and classifications among specialized fields of social statistics

PROGRESS REPORT ON THE HARMONIZATION OF CONCEPTS AND CLASSIFICATIONS
AMONG SPECIALIZED FIELDS OF SOCIAL STATISTICS

Report of the Secretary-General

SUMMARY

The need for harmonization of concepts and classifications among specialized fields of social statistics has long been recognized, and high priority was attached to work in this area by the Statistical Commission at its nineteenth session. Owing to recruitment delays, it has not been possible to start the work as planned. The present document is therefore an interim report outlining the intended direction of work. Section I suggests action the Commission may wish to consider; section II summarizes the basic principles underlying work on classifications and definitions and section III briefly introduces four areas that are considered to have high priority for international work, namely, (a) age, (b) the household and related concepts, (c) labour force status and manpower and (d) size and type of place.

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INTRODUCTION

1. It has long been recognized that harmonization of concepts and classifications among specialized fields of social statistics is one of the chief tools for achieving integration of the body of social and demographic statistics as a whole. This is a fundamental aspect of the proposals made in Towards a System of Social and Demographic Statistics ^{1/} and it was reiterated in the subsequent documents discussing further work in this field. ^{2/}

2. At its nineteenth session the Commission considered a report outlining a strategy for further work on the framework for integration of social and demographic statistics (E/CN.3/489) and strongly endorsed the two priority topics for work in this area proposed there, as follows:

"... first, continuing work on the harmonization of concepts, classifications and definitions in the various fields of social, demographic and related economic statistics, with particular emphasis on those with implications for data collection and analysis in two or more fields; and, secondly, a study of current empirical experiments on integration of social statistics in individual countries." ^{3/}

3. The present document is addressed to the first of these topics. Work on social and demographic classifications was included in the programme objectives of the Statistical Office for 1977-1978 approved by the Commission, ^{4/} but unforeseen delays in staff recruitment have made it impossible to start the work as planned. Hence the present document should be seen as an interim report outlining the intended direction of work. It discusses the rationale on which work on concepts and classifications should be based (not only in the social and demographic field but in other fields as well) and suggests the particular social and demographic areas that are considered to have high priority for international work. In discussing each of these areas, attention is devoted to identification of the particular problems posed and to a consideration of the extent to which

^{1/} United Nations publication, Sales No. E.74.XVII.8.

^{2/} "System of Social and Demographic Statistics (SSDS): Potential uses and usefulness" (E/CN.3/449), prepared by Sir Claus Moser acting as consultant to the United Nations and approved for publication by the Commission at its eighteenth session; and "Strategy for further work on a System of Social and Demographic Statistics" (E/CN.3/489), discussed by the Commission and approved for publication at its nineteenth session. These two documents, a third one on issues and terms of reference for further work and a fourth on national practices are being prepared for publication in a single volume entitled Studies in the Integration of Social and Demographic Statistics: Technical Report, Studies in Methods, Series F, No. 24 (United Nations publication, to be issued).

^{3/} Official Records of the Economic and Social Council, Sixty-second Session, Supplement No. 2 (E/5910), para. 78.

^{4/} Ibid., annex II, objective 4.1.

international solutions seem possible. Its objective is to help the Commission provide some guidance as to the kind of work that should be undertaken as soon as the long-vacant post is filled.

I. ACTION BY THE COMMISSION

4. The Commission may wish:

(a) To consider what topics should have priority in further work on social and demographic classifications at the international level and how best to take advantage of work being done by specialists in each of the fields while ensuring adequate co-ordination across fields and considering the needs of both producers and users of statistics; and

(b) To recommend a programme of work at the international level, including the preparation of technical reports and manuals, as appropriate, with a view to encouraging practical applications, empirical testing and comparative studies as well as conceptual development.

II. THE PRINCIPLES OF TAXONOMY AS APPLIED TO SOCIAL AND DEMOGRAPHIC STATISTICS

5. The general problems involved in developing a coherent system of social and demographic classification have been discussed in several of the documents cited above. At the risk of repetition for those familiar with the earlier work, they will nevertheless be summarized here because of the importance of the principles involved for establishing the focus of the Statistical Office work programme.

6. As has been pointed out in numerous contexts, social and demographic statistics are difficult to organize in a coherent way because of the great diversity of the topics covered in this very large field. What all social statistics have in common is a concern with people and their interactions in various kinds of social and economic relationships. However, this concern with people is not in itself an adequate basis for establishing either definitions of reporting and reference units or principles of classification. People have many characteristics and they may be related to one another in many kinds of groupings. As individuals, they have attributes such as age, sex, race or ethnic group, education, occupation, disabilities, nutritional status, labour force status, criminal record. They may be members of primary or extended families, which in turn may belong to households or other kinds of communal living groups. Families and households have characteristics based on their internal structure, their housing, their location, their income etc. Individuals may also be grouped in other ways, namely, into school classes, employees of particular establishments, participants in particular programmes etc. And finally, it is often convenient to use various administrative units as reporting and reference units - schools, hospitals etc.

7. Much work has already been done in seeking to bring order into this highly diverse field. Towards a System of Social and Demographic Statistics, together with

such later documents as its adaptation for developing countries (E/CN.3/490) and the work on social indicators 5/ have gone a long way towards laying out the specific areas that the broad field of social and demographic statistics encompasses and, within each of these areas, identifying the concepts and classifications needed. Within a number of specialized fields of statistics, a great deal of work has been done on the definition of concepts and the specification of classifications to facilitate the integration and comparison of statistics at the national level and the compilation of data on an internationally comparable basis. For example, in education, health, occupation and other special fields, developmental work has been done - more completely in some areas than others. 6/ In addition, the recommendations on censuses of population and housing are an important example of somewhat more general activity that directly affects several fields of social statistics, one that has proved to be very useful for improving both intra-country and intercountry comparability. Work has also proceeded on an even more general level. The Working Party on a Framework for the Integration of Social and Demographic Statistics of the Conference on European Statisticians, for instance, has considered the question of classifications at several sessions 7/; it is this group that has provided much of the impetus for the development of the Statistical Office programme in this area.

8. Nevertheless, it is generally recognized that much remains to be done. The need for an expanded programme of work in this area was endorsed by an Expert Group on Methods of Integration of Social and Demographic Statistics, which met at United Nations Headquarters in March 1978; this group, which was convened to consider a draft of E/CN.3/516, also before the Commission, put concepts and classifications among the first items in its priority list for further work. 8/ As was pointed out in E/CN.3/516, what is needed is a comprehensive view of the whole field of social and demographic concepts and classifications. Ways must be found to link the various areas of social statistics not just at some aggregated level but rather at the most detailed levels. At the same time, it is essential to preserve flexibility so that the needs of both specialists and generalists can be met. Thus, a rigid scheme to which all statistics are expected to conform is not a possible solution; it is apparent that no such scheme could serve all of the varied kinds of uses of social statistics. Rather, what is wanted is a hierarchical, multidimensional structure, capable of expansion or contraction in any dimension as needed. Specialists in a given field - education, for instance - may wish to use the most detailed level of the classification in that field. For some purposes that level may also be wanted by specialists in other fields - a study of occupational qualification, say, might need very detailed information on level of education. For other purposes, however, a much collapsed classification of level of education

5/ Social Indicators: Preliminary Guidelines and Illustrative Series, Statistical Papers, Series M, No. 63 (United Nations publication, to be issued).

6/ This work is summarized in Studies in the Integration of Social and Demographic Statistics: Technical Report.

7/ See, for example, CES/WP.34/18 and CES/WP.34/23.

8/ ESA/STAT/SC.7/4, para. 51(1).

would be quite sufficient; thus, in studying the relation of education to health, half a dozen educational classes would probably be more than sufficient. But those half dozen classes should be consistent with, and derivable from, the much more detailed structure. They should also be consistent with, and derivable from, any intermediate levels of aggregation of the classification - for instance, a classification of perhaps a dozen classes that might be wanted for a study of the relation of income to education.

9. The same principles of consistency and hierarchical structure apply to reporting and reference units, as well as to classifications. It should not, for instance, be expected that agreement could be reached on a single concept of a reporting or reference unit relating to households and families that would be acceptable in all uses. Rather, attention should focus on the specification of the relationships among different concepts in such a way that the data, often obtained from different statistical reporting systems, can be assessed at different levels for different purposes. Some uses may require legal tax units, some may require nuclear families, some may require households sharing a common housekeeping unit, some may encompass plural households sharing a common head and some may need even broader units. The relationships among such groups of concepts are seldom neat and easily definable, but they need to be examined and specified.

10. For purposes of setting up a work programme on classifications at the international level, the contribution of the United Nations and the specialized agencies will be based on the existing division of responsibilities. Where there is a specialized agency working in a given field, the specialized classifications and concepts in that field should naturally be primarily its responsibility. The primary responsibilities of the Statistical Office are threefold. First, it should concern itself with the general classifications that cut across a number of fields. Section III below discusses the general classifications to which it is considered that priority should be attached. Secondly, there may be some specialized classifications that do not fall into the area of responsibility of any specialized group; the Statistical Office should endeavour to fill such gaps. Thirdly, the Office should perform a co-ordinating role, ensuring that the whole body of social and demographic classifications is consistent and complete. This entails helping those working on classifications in individual specialized fields of social statistics to identify and take into account the needs of those in other specialized fields and the multisectoral needs that such classifications should attempt to serve.

11. Before proceeding to the discussion of specific priority topics in social and demographic classifications, mention should also be made of related classification work in other areas. Social and demographic statistics are, of course, closely related to economic statistics, and there are a number of economic classifications that are of great importance for the analysis of social questions. These include the industrial and commodity classifications (International Standard Industrial Classification, International Classification of All Goods and Services, Standard International Trade Classification), where a long-term programme of harmonization work has been laid out; the classifications embodied in the System of National Accounts; and the Classification of Functions of Governments (COFOG). For details on COFOG, see E/CN.3/510, also before the Commission. Additionally, it should be

noted that the subject of statistics of time use will be discussed by the Commission; for details, see E/CN.3/519. It is not proposed to discuss any of these classifications in the present document, but their relevance should be borne in mind in considering the structure and consistency of the classification system as a whole.

III. PRIORITY AREAS FOR STATISTICAL OFFICE WORK ON CLASSIFICATIONS IN SOCIAL AND DEMOGRAPHIC STATISTICS

12. The present section discusses the nature of the problems and the needs for activities at the international level for several general social and demographic classifications and groups of concepts to which it is considered that high priority should be attached for Statistical Office work. It should be noted, however, that this is not necessarily intended to imply equal priority either for countries or for other international agencies. Furthermore, the list is not intended to exclude the possibility of work in other areas. In particular, where related projects call for work in specialized subject-matter areas, they may well entail classifications. Also, to the extent that the Statistical Office can contribute to the work of other bodies on specialized classifications it will of course wish to do so.

13. Four general areas will be discussed here. These are age, household and family, labour force status and size and type of place. Several others will be noted briefly. No great significance is to be attached to the order in which the first four topics appear. All are considered to be of high priority. A considerable amount of work has already been done in several of these fields on both the international and the national level, but all of them need further development, systematization and codification. In these efforts the objective will be to develop guidelines in various forms that will contribute both to the integration and comparability of statistics at the national level and to the comparability of data for purposes of intercountry comparisons.

A. Age

14. Age is among the most frequently collected and reported characteristics of persons in a wide variety of social, demographic and related economic statistics, and it is almost universally used as a classification variable. At first glance, it would not seem to present very many problems. It would appear to have a desirable technical property: it is cardinal and hence can be aggregated and averaged. But the apparent cardinality is to some extent spurious, since a single year of age may have different significance at different stages of the life cycle and in different fields of social concern.

15. Furthermore, while the year is a very useful and widely accepted unit of measurement, it is a relatively short period in a life span, so that age groupings are needed in most situations involving the presentation of data in tabular form. In these applications, even very minor differences in the age groupings used may preclude useful comparability. If data on age are collected and stored in terms of single years of age, the maximum amount of flexibility is permitted at the tabulation phase. Although single-year age data are usually collected in population

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censuses and general-purpose household surveys, most tabulations use five-year, 10-year or even broader age groupings. Moreover, many special-purpose surveys and administrative reporting systems collect and record age data exclusively by age groups. The age groupings used are often either broad, "non-standard" or both. Thus, data from the population census may not be comparable with (or be able to be checked against) series compiled from administrative records or special surveys. A standardized approach to age-group classification in collecting and compiling statistics of age-related data is an important step in the integration of social and demographic data.

16. Frequently, a commonality of interests among specialists in the same field working with different data sources may lead to standardization of age-reporting methods and classifications within that field, but this is rarely the case where interdisciplinary work is involved. The need for harmonization in age classification is especially great in connexion with programmes for special population groups. Such special groups are often identified in terms of life-cycle phase - infants, school children, workers, the retired - all of which are at least partially defined in terms of age. Consideration must therefore be given to the relation of age to life-cycle phases, the possible subdivisions and overlaps among such life-cycle phases and possible variations in the relation of age to life-cycle phase from one country to another. Where the interest is in more narrowly defined client groups such as school dropouts, unemployed youth or working mothers, harmonization of age classifications is especially crucial since a great many data from different fields are needed to describe and track the groups.

17. The topic of age classification was considered by the Sub-Committee on Statistical Activities of the Administrative Committee on Co-ordination at its twelfth session (1978). It was agreed that this was an important and useful topic for further study and that the first step should be to bring together information on national and international practices so as to clarify possibilities for harmonization. The Sub-Committee noted that international agreement on age classification had already been reached in the international recommendations for mortality and morbidity statistics and agreed that these recommendations together with information on their implementation would be a valuable contribution to further work in this area. It noted that there are many technical problems in achieving a more harmonized approach to age classification but agreed to assist the Statistical Office in the further study of national and international practices that it plans to undertake.

B. The household and related concepts

18. The household is one of the most universally used concepts across the full range of social statistics programmes but, at the same time, it is one of the most troublesome to define consistently and clearly. In part, the difficulty arises from a failure to recognize the need for different concepts in different uses; thus, clear and consistent relationships among the various concepts have not been established. There has been a tendency, within each special field, to develop concepts appropriate to that field without regard for their relation to concepts in use in other fields. For population census purposes, the United Nations

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housekeeping concept is widely used, though the exact definitions vary in details from country to country, as does the consistency of its interpretation by census and survey personnel. But there are many uses for which this concept is inappropriate and, even for census purposes, it may not accommodate the full range of variation on which it would be useful to have information.

19. For international use, it is particularly important to allow for the variety of social forms that are found in different countries, while still retaining as much possibility of cross-country comparison of similar units as possible. To date, there has been little international consideration of the need for developing a structure of interrelated concepts. In most uses where a concept is specified, the census concept is adopted. This is true, for instance, in the guidelines on statistics of the distribution of income.^{9/} The draft recommendations for population and housing censuses (E/CN.3/515), also before the Commission, devote some attention to the relation between the reporting unit and the reference unit, noting that whereas the housekeeping group is likely to be the most convenient unit for the conduct of interviews, there is no necessity for retaining the same unit for classification, tabulation or analysis. To permit such flexibility, however, the relationships among the various reference units must be specified. Several countries have devoted attention to the problem of developing interrelationships among concepts and, in some cases, considerable progress has been made both in terms of requirements for the conduct of surveys and censuses and of requirements for storage and compilation so that the data base can be assessed at various levels. A survey of country practices would therefore be a necessary first step in assessing the possibilities for international standardization or at least for guidance on methods of achieving comparability at the national level.

20. In addition to the importance of the concept of household or family as a reporting and/or reference unit, household or family type is also a widely used classificatory variable. Little attention on the international level has been devoted to the standardization of such a classification, although it is used in several contexts such as in the Provisional Guidelines on Statistics of the Distribution of Income ..., as well as in connexion with censuses and household surveys. To some extent, the development of a classification of household types is a further extension of the specification of the interrelationships among the various concepts of household and family. Some attributes of the household group may at the same time be elements of the definition of the concept and devices for classifying as, for instance, whether the group is a nuclear family, stem family, laterally extended family, multiple-family household, monogamous, polygamous, single-parent etc. In classifying households or families by type, it is often necessary to consider not only the number of household or family members but also their relationships and ages. Occupation, place of residence (urban/rural) and income may also be important. While it may be expected that the elements that are important will vary from country to country, it should be possible on an international level to make some progress in identifying the elements that should be considered and proposing ways to achieve consistency both among various fields within countries and among countries for international reporting purposes. Here again, what should be emphasized is the need for a hierarchical structure that can be expanded or collapsed as needed.

^{9/} Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households (United Nations publication, Sales No. E.77.XVII.11).

C. Labour force status

21. Statistics relating to employment and the labour force are central in studying the economic and social interrelationships among people. Their importance has long been recognized and a great deal of work has been done in the development of both standard concepts and standard classifications in such fields as occupation, employment and unemployment and labour force status (proprietor, employee etc.). With the passage of time, however, it has become apparent that the existing concepts and classifications are not fully satisfactory in all respects. On the one hand, where they were developed with reference to the kinds of institutional arrangements found in industrialized countries, they are not always applicable to the conditions found outside the industrial or large-scale manufacturing sectors in countries at varying earlier stages of development. And on the other hand, as policy interests have shifted from purely economic objectives to include broader social questions, a need for additional or different information has also been felt in the industrialized countries.

22. The attachment of individuals to the labour force may be examined in a number of different aspects. One aspect relates to what might be called an individual's functional role, i.e., whether he or she is an employee, self-employed, unpaid family worker, homemaker, retired etc. Such a classification needs to go well beyond the traditional in/not in the labour force or active/inactive. A second aspect relates to work status, traditionally viewed as employed/unemployed. Even in highly industrialized countries this dichotomy is often overly simplistic, and for developing countries it may miss much of the problem. For the employed, one needs to know whether full or part time; if part time, whether voluntarily or because there is no work. Closely related is the subject of underemployment, which has for some time been a concern of governmental policy in a number of countries. This interest is reflected in the activities at the national and international level in defining and measuring underemployment.

23. For those not employed there is also a need for a more informative classification than the simple dichotomy unemployed/not in the labour force. Even in highly industrial countries the discouraged worker needs to be identified, and in countries with a large informal sector the problem is considerably more complex. A number of countries have been working on these and similar questions in an attempt to develop a new approach to labour force and manpower statistics.

24. This is an area with which the International Labour Office has long been concerned, and it may be expected that they should continue to take primary responsibility for it. However, this is a prime example of a specialized area with wide general applicability and it is essential that it be examined from a social as well as an economic perspective. The co-ordinating activities of the Statistical Office are therefore very important.

D. Size and type of place

25. The definition and classification of geographical units are of central importance in all phases of statistical work and the quality and consistency of the

definitions and classifications employed, and of their implementation, have a substantial impact on their usefulness, particularly in multidisciplinary and analytical studies. Like many of the other general classifications, there is often a tendency for practitioners in different fields to develop their own geographical classifications; thus, the combined use of statistics from different fields becomes difficult or impossible.

26. Once again, the problem arises from differing needs, as well as from simple lack of co-ordination. For some purposes, what is needed are civil or administrative units; this is certainly the case wherever a budgetary process or governmental administrative function is involved. For other purposes, other characteristics may be important: agglomeration, economic function, language, agro-ecological features etc. In most countries, the first geographical breakdown applied relates to civil divisions. But this is seldom regarded as sufficient for analytical purposes. An urban/rural dichotomy is often a next step, based either on a size-of-agglomeration criterion or type-of-economic-activity criterion or some combination of the two. Drawing a hard and fast line between urban and rural, however, is arbitrary and may obscure important patterns and relationships in data so classified. As a minimum, especially for intercountry comparisons, a classification based upon a more explicit and easily observable criterion, and one allowing for more classes, is needed: hence, size and type of place.

27. There are many variants of size and type of place and many approaches to identifying a "place". The comparability of data from different sources and the possibility of reclassifying data from one classification to another depend upon the adoption of a standard small-area unit as the basic building block for all geographical classifications. In recent years much attention has been devoted in a number of countries to the development of methods for identifying and classifying small geographical units for the purpose of storage and flexible retabulation of data. While some of these methods, particularly those involving a geo-coding system based on a comprehensive system of grids or co-ordinates, are beyond the present needs or capabilities of most developing countries, other methods are being used by developing countries to suit their own needs and circumstances.

28. There are, of course, some aspects of regional classification that are not susceptible to international standardization: each country's geography and administrative structure are its own. But there are many aspects on which progress can be made on an international level by providing guidance to countries on the principles and methods for effectively pursuing this work. As a first step, it would be useful to conduct a survey of country approaches to the problems of defining small areas and combining them into classifications by size and type of place.

E. Other areas

29. The areas discussed above are those where it seems likely that the Statistical Office could make a significant contribution in the relatively short run. The list could be extended but it does not seem useful at the present time to do so in view of the resources likely to be available for work in this area. Beyond the fields listed, however, there are some, such as the use of time, where work on

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classifications and concepts will be a necessary component of a wider inquiry. There are others, such as occupation and socio-economic status, where other agencies may be expected to take the initiative. And finally, it should be the function of the Statistical Office to keep the whole field of social and demographic classifications under review in order to make sure that all of the work that is done, whether by specialized agencies, regional groups or the Statistical Office itself, is done with a consciousness of what is being done elsewhere and keeping in view the need for co-ordination and consistency.
